NEW DESCRIPTIONS

A NEW CYPRINID FISH OF THE GENUS *DANIO* HAMILTON (PISCES: CYPRINIDAE) FROM ANDHRA PRADESH, INDIA[1]

R. P. Barman[2]

(*With a text-figure*)

A new freshwater cyprinid fish belonging to the genus *Danio* Hamilton collected from Mahbubnagar district, Andhra Pradesh, India is illustrated and described in this paper. The new species is named *Danio* (*Danio*) *menoni*. The distinguishing characters of this species from its allied species *Danio* (*Danio*) *devario* (Hamilton) have been discussed. A key to the Indian species of the subgenus *Danio* is also included.

INTRODUCTION

The daniids are mainly distributed throughout the Indian subcontinent, Thailand, Malay Peninsula, Sumatra and Yunnan in China. These small active fishes which do not grow more than 110 mm. (4.5 inches) are usually found in great abundance in suitable localities of small water courses like pools in rice-fields, ditches in the bed of hill streams, mountain rivulets and rivers. These freshwater fishes do not constitute any major fishery in Indian waters and are only of secondary value. However, taxonomically these are interesting since the extensive use of these fishes in aquarium trade has cast confusion in nomenclature, systematics and zoogeography.

Day (1889) recorded 10 species and Jayaram (1981) enumerated 17 under the genus *Danio* from the Indian subcontinent. Barman (1983, 1984a and 1984b) described three new species belonging to the genus from India and Burma. While I was working on the freshwater fish fauna of Andhra Pradesh I came across three examples of a species referable to the subgenus *Danio*. Comparison with so far known species under the genus proved it to be a hitherto undescribed species.

Measurements of the fish given in parenthesis in species description are the range of proportions and outside the parenthesis are the arithmatic mean of the range of proportions of the type specimens.

Danio (Danio) menoni sp. nov.

Material: HOLOTYPE (Fig. 1): 42 mm. SP. Reg. No. Zoological Survey of India, Calcutta, FF2282. Locality: stream near Mosampet village, Mahbubnagar district, Andhra Pradesh, India. Collector: R. P. Barman and party. Date of collection: 15.12.1984. PARATYPES: 2 exs., 40 mm.-43 mm. SL. Reg. No. Zoological Survey of India, Calcutta, FF2283. Locality, collector and date of collection same as in holotype.

Etymology: For Dr. A. G. K. Menon, Emeritus Scientist in recognition of his contributions to the fishes of the world.

---

[1] Accepted June 1985.

[2] Zoological Survey of India, 27, Jawaharlal Nehru Road, Calcutta-700 016.

Diagnosis:

Head length 3.90-4.00 and body depth 3.07-3.23 in standard length. Eye diameter 3.33-3.66 in head length. Least depth of caudal peduncle 1.33-1.75 in its length. Lateral line complete with 33-34 scales. Dorsal fin rays 10-11 and anal fin rays 21-22. Barbels absent. Presence of two dark spots, one at the superior margin of the gill opening and the other one at the base of caudal fin.

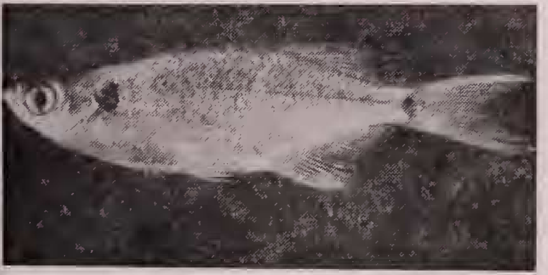

Fig. 1. Lateral view of the holotype of *Danio* (*Danio*) *menoni* sp. nov.

Description:

Head length 3.96 (3.90-4.00) at the most distant point on the opercular membrane, body depth 3.12 (3.07-3.23) at the commencement of pelvic fin, predorsal distance 1.49 (1.48-1.50), prepelvic distance 2.15 (2.10-2.22), preanal distance 1.50 (1.48-1.53) and length of caudal fin 3.12 (3.07-3.23) in standard length. Depth of head 1.36 (1.31-1.42) at the occiput and width of head 1.86 (1.75-2.00) in head length.. Eye diameter 3.49 (3.33-3.66) in head length, 1.55 (1.50-1.66) in interorbital width. Snout length 4.20 (4.00-4.40) in head length, 1.86 (1.80-2.00) in interorbital width. Length of the postorbital part of head is twice or slightly less that of the snout length or preorbital part of head. Cleft of mouth moderate, obliquely directed upward extending near to anterior margin of the eye. Least depth of caudal peduncle 1.52 (1.33-1.75) in its length. Barbels absent.

Scales: Lateral line complete covering 33-34. Lateral transverse scales at the pelvic fin origin 10; scales between lateral line and base of pelvic fin 2½. 18-19 predorsal and 12 circumpenduncular scales.

Fins: D.ii,8-9; A.iii,18-19; P.i,11; V.i,6; C.19.

Dorsal originates opposite or slightly behind the anal origin, considerably nearer to the base of caudal fin than to the tip of snout and extending over almost the whole length of the

TABLE 1

MEASUREMENTS (IN MM.) AND MERISTIC COUNTS OF *Danio* (*Danio*) *menoni* sp. nov.

	Holotypes	Paratypes	
Total length	55.0	53.0	57.0
Standard length	42.0	40.0	43.0
Caudal fin length	13.0	13.0	14.0
Head length	10.5	10.0	11.0
Head depth at the occiput	8.0	7.0	8.0
Head width at pre-opercular margin	6.0	5.0	6.0
Body depth at pelvic origin	13.0	13.0	14.0
Eye diameter	3.0	3.0	3.0
Interorbital width	4.5	4.5	5.0
Snout length	2.5	2.5	2.5
Predorsal distance	28.0	27.0	29.0
Prepelvic distance	20.0	18.0	20.0
Preanal distance	28.0	27.0	28.0
Length of longest dorsal fin ray	8.0	8.0	8.0
Length of longest anal fin ray	9.0	9.0	9.0
Pectoral length	15.5	15.0	16.0
Pelvic length	8.0	7.0	8.0
Caudal peduncle length	6.0	6.0	7.0
Caudal peduncle depth	4.0	4.0	4.5
Lateral line scales	34	33	34
Dorsal fin days	2/9	2/9	2/8
Anal fin rays	3/19	3/18	3/19

anal fin. Pelvic fin commences on a vertical considerably anterior to the dorsal fin. Length of the longest dorsal ray 5.20 (5.00-5.37), length of longest anal ray 4.62 (4.44-4.77), pectoral length 2.68 (2.66-2.70) and pelvic length 5.44 (5.25-5.71) in standard length. Caudal fin emarginate with equal lobes. The most conspicuous characteristic of the fins are the pectoral fins which extend almost upto the tip of pelvic fin.

Measurements and counts of this species are given in table 1.

Colour in life: Dorsal surface moderately dark and ventral and sides pale silvery. A prominent dark spot present on the superior margin of the gill opening and a second dark blotch at the base of caudal fin. A lateral dark straight line extending from the base of caudal fin to middle of opercular end and origin of dorsal fin. All fins white.

Distribution and Habitat: *Danio* (*Danio*) *menoni* is known only from a stream near Mosampet village, Mahbubnagar district, Andhra Pradesh, India which lies between approximately 16.5°-17°N latitude and 77°-78°E longitude. The holotype and paratypes were collected with cast net over muddy substratum in a quiet, semiturbid pool approximately 150 × 80 m. with a maximum depth of about 1.5 m.

Relationships:

Danio (*Danio*) *menoni* sp. nov. is closely related to *Danio* (*Danio*) *devario* (Hamilton) in head length, anal fin-rays count and in general appearance of the body. The new species can be easily separated from the latter species by a combination of characters which include absence of barbels, lateral line scale count 33-34, transverse scale count 10, circumpeduncular scale count 12, body depth relatively shorter, shorter eye diameter, dorsal fin rays less (10-11), pectoral fin relatively longer and presence of two dark spots, one on the superior margin of gill opening and the other at the base of caudal fin. These characteristics are shown and compared in table 2.

TABLE 2

COMPARISON OF *D. menoni* SP. NOV. WITH THE RELATED SPECIES

Characters	*D. devario*	*D. menoni* sp nov.
Standard length/ Body depth	2.60–2.86	3.07–3.23
Head length/Eye diameter	2.57–3.00	3.33–3.50
Lateral line scales	45–52	33–34
Transverse scales	14–15	10
Circumpeduncular scales	14–16	12
Dorsal fin rays	19–20	10–11
Standard length/ Pectoral length	4.00–4.77	2.66–2.70
Barbels	* present	absent
A dark spot present on superior margin of gill opening	absent	present

* Hamilton (1822) described *D. devario* from Indian waters without barbels and subsequent workers like Day (1889) and Hora (1934) recorded this species with no barbels. During the course of my revisionary studies on the cyprinid genus *Danio*, out of hundreds of specimens of this species examined by me from different localities of India, not a single specimen was found without a pair of posterior or maxillary barbels.

KEY TO THE INDIAN SPECIES OF THE SUBGENUS *Danio*

1. A small preorbital spinous process backwardly directed on anterior rim of the orbit present...2
   No preorbital spinous process on anterior rim of the orbit. 6
2. One or two supraorbital forwardly directed spine in addition to the preorbital spinous process on the anterior rim of the orbit........ .... *D. spinosus* Day
   No supraorbital spine. 3

3. Lateral line scales 54-56, transverse scales 15.......................... *D. annandalei* Chaudhuri
   Lateral line scales not more than 53..........4
4. Lateral line scales 40-41, transverse scales 10...........................*D. assamensis* Barman
   Lateral line scales 32-37 5
5. Lateral line scales 32. Dorsal fin rays 10. One pair of posterior or maxillary barbels............................ *D. kakhienensis* Anderson
   Lateral line scales 35-37. Dorsal fin rays 12-13. Two pairs of barbels.........*D. aequipinnatus* (McClelland)
6. Dorsal fin rays 19-20. Lateral line scales 45-52. One pair of posterior or maxillary barbels............................*D. devario* (Hamilton)
   Dorsal fin rays less than 18. Lateral line scales not more than 45 7
7. Barbels absent. Dorsal fin rays 10-11. Lateral line scales 33-34 ....*D. menoni* sp. nov.
   Two pairs of barbels present 8
8. Barbels well developed, both pairs of barbels much longer than eye diameter. Lateral line scales 36-42. Lateral dark bands breaking up anteriorly to form a mottled pattern. .... *D. dangila* (Hamilton)
   Barbels not well developed, both pairs of barbels much shorter than eye diameter..........9
9. Lower lip hypertrophied forming a loose flap along the lower jaw. Lateral line scales 40-41. Anal fin rays 17-19............*D. fraseri* Hora
   Lower lip not hypertrophied, simple. Anal fin rays less than 17. 10
10. Dorsal fin rays 12-14. Literal line scales 37-38. ....*D. neilgherriensis* (Day)
    Dorsal fin rays 10. Lateral line scales 40-42........................ *D. naganensis* Chaudhuri

ACKNOWLEDGEMENTS

I am grateful to Dr. B. K. Tikader, Director, Zoological Survey of India, Calcutta for laboratory facilities. I am also thankful to Drs. K. C. Jayaram, Joint Director and A. G. K. Menon, Emeritus Scientist, Zoological Survey of India for their valuable suggestions. Thanks are also due to Drs. A. K. Ghosh, Deputy Director and P. K. Talwar, Deputy Director, Zoological Survey of India, Calcutta for their encouragement.

REFERENCES

BARMAN, R. P. (1983): A new species of the genus *Danio* Hamilton from India (Pisces: Cyprinidae). *Curr. Sci., 52*(4): 177-178.

——————— (1984a): On a new species of the genus *Danio* Hamilton from Burma (Pisces: Cyprinidae). *Bull zool. Surv. India, 5* (2&3): 31-34.

——————— (1984b): A new freshwater fish of the genus *Danio* Hamilton (Pisces: Cyprinidae) from Assam, India. ibid. *6* (1-3): 163-165.

DAY, F. (1889): The Fauna of British India, including Ceylon and Burma, Fishes, 1: i-xx, 1-548. Taylor & Francis, London.

HAMILTON, F. (1822): An account of the fishes found in the river Ganges and its branches. Edinburgh and London, viii + 405, 39 pls.

HORA, S. L. (1934): Notes on fishes in the Indian Museum. XXII. On a collection of fish from the S. Shan States and Pegu Yomas, Burma. *Rec. Indian Mus., 36*(1): 123-138.

JAYARAM, K. C. (1981): The Freshwater Fishes of India, Pakistan, Bangladesh, Burma and Sri Lanka. A handbook. Govt. of India, i-xxii, 1-475, pls. XIII.